

WHAT IS CLAIMED IS:

1. A disk-shaped information recording medium comprising:

spiral tracks; and

5 at least one index header which is aligned in a radial direction of a disk to partially intercept said spiral tracks.

10 2. A medium according to claim 1, wherein said index header has address data recorded as an embossed pattern.

3. A medium according to claim 1, wherein said index header has, along a track direction, a plurality of index header areas corresponding to respective rounds of tracks of said spiral tracks.

15 4. A medium according to claim 3, wherein each of said index header areas is allocated on an extended line of the corresponding round of track, and has address data of the corresponding round of track.

20 5. A medium according to claim 3, herein each of said index header areas has a plurality of header parts,

a predetermined header part 1 of the plurality of header parts of the index header area corresponding to the n-th round of track of said spiral tracks has address data,

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a predetermined header part 2 of the plurality of header parts of the index header area corresponding to

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the header parts 1 and 2 are allocated at different positions in the radial direction.

each of said recording fields has a header field
and data field,

7. A medium according to claim 6, wherein a specific one of said recording fields is allocated to extend across said index header,

said first and second sub recording fields respectively have connection fields for connecting the two sub recording fields.

9. A medium according to claim 1, wherein said

information recording medium has a plurality of concentric zones, and

each of said zones includes said spiral tracks which are wobbled.

5 10. A medium according to claim 9, wherein the number of wobbles per round of spiral tracks included in a specific zone is identical, and a disk rotational speed upon accessing the specific zone and a frequency upon recording data on the specific zone can be
10 determined on the basis of a frequency reproduced from the wobbles of said spiral tracks.

11. A medium according to claim 1, wherein said spiral tracks are alternately switched to land- and groove-shaped tracks in units of rounds, and

15 said index header is aligned at only a boundary between said land- and groove-shaped tracks.

20 12. A medium according to claim 6, wherein the address data recorded as an embossed pattern in said index header is used before said recording fields are allocated on said spiral tracks, or is additionally used after said recording fields are allocated on said spiral tracks, and

25 the address data recorded in the header field in the recording field is used after that recording field is allocated on the spiral track.

13. An information recording apparatus for recording information on a disk-shaped information

recording medium which comprises:

spiral tracks; and

at least one index header which is aligned in
a radial direction of a disk to partially intercept the
spiral tracks, and in which address data of a track is
recorded as an embossed pattern,

said apparatus comprising:

recording means for recording a recording field
having a header field and data field on the spiral
tracks on the basis of address data recorded as an
embossed pattern in said index header, and recording
address data of the recording field in the header
field.

14. An apparatus according to claim 13, further
comprising data recording means for recording target
data in the data field of the recording field on the
basis of the address data recorded in the header field
after said recording means records the address data in
the header field of the recording field.

15. An apparatus according to claim 13, further
comprising data recording means for recording target
data in the data field of the recording field on the
basis of the address data recorded in the header field
without rewriting the address data recorded in the
header field after said recording means records the
address data in the header field of the recording
field.

16. An apparatus according to claim 13, wherein the information recording medium has a plurality of concentric zones,

5 each of the zones includes the spiral tracks which are wobbled,

the number of wobbles per round of spiral tracks included in a specific zone is identical,

the spiral tracks alternately have land- and groove-shaped tracks in units of rounds,

10 the index header is aligned at only a boundary between the land- and groove-shaped tracks, and

said apparatus further comprises:

15 tracking control means for controlling tracking to make a light beam track the land- and groove-shaped tracks by detecting the index header;

first control means for controlling a disk rotational speed upon accessing a specific zone on the basis of a frequency reproduced from wobbles of the spiral tracks included in the specific zone; and

20 second control means for controlling a frequency of data recording with respect to a specific zone on the basis of a frequency reproduced from wobbles of the spiral tracks included in the specific zone.

25 17. An information recording method for recording information on a disk-shaped information recording medium which comprises:

spiral tracks; and

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at least one index header which is aligned in a radial direction of a disk to partially intercept the spiral tracks, and in which address data of a track is recorded as an embossed pattern,

5 said method comprising the step of:

 recording a recording field having a header field and data field on the spiral tracks on the basis of address data recorded as an embossed pattern in said index header, and recording address data of the
10 recording field in the header field.

 18. A method according to claim 17, further comprising the step of recording target data in the data field of the recording field on the basis of the address data recorded in the header field after the
15 address data is recorded in the header field of the recording field.

 19. A method according to claim 17, further comprising the step of recording target data in the data field of the recording field on the basis of the
20 address data recorded in the header field without rewriting the address data recorded in the header field after said the address data is recorded in the header field of the recording field.

 20. A method according to claim 17, wherein
25 the information recording medium has a plurality of concentric zones,

 each of the zones includes the spiral tracks which

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are wobbled,

the number of wobbles per round of spiral tracks included in a specific zone is identical,

the spiral tracks alternately have land- and groove-shaped tracks in units of rounds,

the index header is aligned at only a boundary between the land- and groove-shaped tracks, and

said method further comprises the steps of:

controlling tracking to make a light beam track the land- and groove-shaped tracks by detecting the index header;

controlling a disk rotational speed upon accessing a specific zone on the basis of a frequency reproduced from wobbles of the spiral tracks included in the specific zone; and

controlling a frequency of data recording with respect to a specific zone on the basis of a frequency reproduced from wobbles of the spiral tracks included in the specific zone.

21. An information reproduction apparatus for reproducing information from a disk-shaped information recording medium which comprises:

wobbled spiral tracks; and

at least one index header which is aligned in a radial direction of a disk to partially intercept the spiral tracks, and in which address data of a track is recorded as an embossed pattern, and

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        each recording field has a header field and data
5      field,

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data reproduction means for reproducing target
10 data recorded in the data field of the recording field
on the basis of the address data recorded in the header
field of the recording field.

each of the zones includes the wobbled spiral tracks,

20 the spiral tracks alternately have land- and
groove-shaped tracks in units of rounds,

said apparatus further comprises:

25 tracking control means for controlling tracking to
make a light beam track the land- and groove-shaped
tracks by detecting the index header; and

control means for controlling a disk rotational speed upon accessing a specific zone on the basis of a frequency reproduced from wobbles of the spiral tracks included in the specific zone.

5 23. An information reproduction method for reproducing information from a disk-shaped information recording medium which comprises:

wobbled spiral tracks; and

10 at least one index header which is aligned in a radial direction of a disk to partially intercept the spiral tracks, and in which address data of a track is recorded as an embossed pattern, and

15 in which the spiral tracks have a plurality of recording fields each having a predetermined track length,

each recording field has a header field and data field,

the header field records address data, and

the data field records user data,

20 said method comprising the step of:

reproducing target data recorded in the data field of the recording field on the basis of the address data recorded in the header field of the recording field.

25 24. A method according to claim 23, wherein the information recording medium has a plurality of concentric zones,

each of the zones includes the wobbled spiral

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tracks,

the number of wobbles per round of spiral tracks included in a specific zone is identical,

the spiral tracks alternately have land- and
5 groove-shaped tracks in units of rounds,

the index header is aligned at only a boundary between the land- and groove-shaped tracks, and

said method further comprises the steps of:

controlling tracking to make a light beam track
10 the land- and groove-shaped tracks by detecting the index header; and

controlling a disk rotational speed upon accessing a specific zone on the basis of a frequency reproduced from wobbles of the spiral tracks included in the
15 specific zone.

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